Cost estimation of waste gas water treatment in chemical enterprises based on discrete choice model

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ABSTRACT

The traditional cost estimation method of waste gas treatment in chemical enterprises has low accuracy and long time. To solve the above problems, this experiment proposed a method of waste gas treatment cost estimation for chemical enterprises based on Discrete Choice Model (DCM). This method first analyzed the waste gas treatment cost of chemical enterprises to determine the emission amount of main pollutants in the waste gas of chemical enterprises. After that, the experiment determined the main components of waste gas treatment costs of chemical enterprises, which were mainly divided into environmental protection equipment costs, maintenance costs and pollution penalty costs. On this basis, a DCM was constructed to analyze the waste gas of chemical enterprises. Meanwhile, the model was used to estimate the waste gas treatment cost of chemical enterprises. The final experimental results showed that the accuracy of this method to estimate the waste gas treatment cost of chemical enterprises could reach 90%, and the estimation time was short, and it was feasible.

Keywords: Waste gas treatment cost; Emissions; Equipment cost; Maintenance cost; Pollution penalty cost; Discrete choice model